

### **REMARKS**

Claims 1-32 are pending. Claims 20, 21, 31 and 32 are allowed. Claims 15, 18, 19 and 28-30 would be allowable if rewritten to overcome rejections based on 35 U.S.C. 112, second paragraph and to include all of the limitations of the base claim and any intervening claims. Claims 3-6, 11-13, 17 and 23-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 1, 2, 7-10, 14, 16, 22 and 27 stand rejected under 35 U.S.C. § 103(a).

The action by the Examiner of this application, together with the cited references, have been given careful consideration. Following such consideration, claims 1 and 22 have been amended to more clearly define the patentable invention applicant believes is disclosed herein. It is respectfully requested the Examiner reconsider the claims in their present form, together with the following comments, and allow the application.

The modifications to Claims 1 and 22 have no new matter as the newly incorporated claim limitations are disclosed in the original specification on page 12 at line 13 and on page 13 on lines 15-30.

Claims 14-15, 18-19 and 28-30 have been amended to overcome objections under 35 U.S.C. 112, second paragraph and have no new matter.

### **Rejections under 35 U.S.C. 103(a)**

#### **The Rejections**

The Examiner rejected Claims 1, 2, 7-10, 14, and 16 under 35 U.S.C. 103(a) as being unpatentable over Anderson (U.S. Patent No. 4,971,687) in view of Wiesmann (U.S. Patent No. 5,151,174).

The Examiner stated that Anderson teaches a germicidal lamp for water treatment including an elongate germicidal tube 38 including an envelope 40 and a stem 45. A fixture includes a cover 36 and a base 34, the base having an upper and a lower surface. The lower surface of the base "seals" against a wall 10 and the cover is detachable from the base by removing screws. Together, the cover 36 and the base 34 define a "sealed" interior space. The

base 34 includes an opening (not labeled) through which the stem 45 of the tube 38 is passed. A tube-holder 48 includes an engaging surface to secure the stem of the tube. Insertion of the tube in the base seals the opening in the base. Within the interior space of the fixture is a power supply, which is intended to "receive electric power of usual household voltage, e.g., 110 to 120 volts, through a power connection 55c and to transform it into a proper higher voltage source of power, which will vary according to lamp design." See col.3, lines 17-21. Moreover, it is disclosed by Anderson that the "parts may be made of any material suitable for exposure to water without undergoing corrosion. See col.4, lines 13-15.

The Examiner further stated that Anderson does not disclose that the tube is a type which emits UVC radiation. However, Anderson does teach that the "irradiation means 20 comprises an ultraviolet lamp 38, e.g., an ozone or non-ozone lamp, and a quartz sleeve 40 which is transparent to U-V rays." See col.3, lines 22-24. Thus, the lamp may be non-ozone producing. Wiesmann teaches the use of replaceable UVC-producing lamps 14 in a water treatment apparatus. Since Wiesmann evidences that UVC radiation is successful in the field of water treatment, the Examiner concluded that it would have been obvious to one of ordinary skill in the art to use such for the lamps of Anderson.

The Examiner also stated that with respect to the weight of the lamp, this limitation is not patentably significant since it at most relates to the size of the article under consideration, which is not ordinarily a matter of invention. In re Yount, 36 C.C.P.A. (Patents) 775, 171 F.2d 317, 80 USPQ 141.

As to the cover and base having a clamshell design, the Examiner stated that the replacement of the screw-type attachment means for a hinge is no more than a matter of design choice and is readily known to one of ordinary skill in the art.

With respect to the tube holder 48 being part of the base 34, the Examiner stated that it has been held that use of a one-piece construction instead of a two-pieced construction, as disclosed by Anderson, would be merely a matter of obvious engineering choice. In re Fridolph, 50 CCPA 745. 89 F.2d 509. 135 USPQ 319. In re Larson, 144 USPQ 347 (CCPA 1965).

The Examiner also rejected claims 22 and 27 under 35 U.S.C. 103(a) as being unpatentable over Anderson. The Examiner stated that Anderson teaches a germicidal lamp for water treatment including an elongate germicidal tube 38 including an envelope 40 and a stem

45. A fixture includes a cover 36 and a base 34, the base having an upper and a lower surface. The lower surface of the base “seals” against a wall 10 and the cover is detachable from the base by removing screws. Together, the cover 36 and the base 34 define a “sealed” interior space. The base 34 includes an opening (not labeled) through which the stem 45 of the tube 38 is passed. A tube-holder 48 includes an engaging surface to secure the stem of the tube. Insertion of the tube in the base seals the opening in the base. Within the interior space of the fixture is a power supply, which is intended to “receive electric power of usual household voltage, e.g., 110 to 120 volts, through a power connection 55c and to transform it into a proper higher voltage source of power, which will vary according to lamp design.” See col.3, lines 17-21. Moreover, it is disclosed by Anderson that the “pans may be made of any material suitable for exposure to water without undergoing corrosion. See col.4, lines 13-15.

The Examiner further stated that with respect to the weight of the lamp, this limitation is not patentably significant since it at most relates to the size of the article under consideration, which is not ordinarily a matter of invention, In re Yount, 36 C.C.P.A. (Patents) 775, 171 F.2d 317, 80 USPQ 141.

It is respectfully submitted that neither Anderson nor Weisman, taken individually or in combination, teach or suggest the applicant’s invention as set forth in the present claims.

### **The Subject Application**

Independent claim 1 as now amended, upon which claims 2, 7-10, 14 and 16 depend, claims a germicidal lamp for harsh environments that is adapted to be mounted on a wall, the wall having an insertion opening.

The lamp is comprised of a low pressure germicidal tube and a fixture. The germicidal tube has an envelope a stem, and emits UVC when energized.

The fixture comprises a cover, a base and a tube holder. The base has an upper surface and a lower surface, the lower surface of the base seals against the wall to thereby prevent splashing water, hose-directed water, ice formations, wind, dirt, rain and environmental corrosion. The cover is at least partially detachable from the base so that the cover can be moved from a first position wherein the cover covers the upper surface to a second position

wherein the cover is at least partially separated from the base to at least partially expose the upper surface of the base. The cover and the upper surface of the base define an interior space within the fixture. The cover “seals tightly to the base” to thereby prevent splashing water, hose-directed water, ice formations, wind, rain and environmental corrosion from entering the interior space of the fixture. The base includes an opening through which the envelope of the tube is passed for installation of the tube in the fixture and removal of the tube from the fixture. Installation of the tube “causes a flange on the tube stem to sealingly engage the base” which seals the opening in the base of the fixture from air flow into the fixture. The tube-holder, including an engaging surface adapted to engage and secure the stem of the tube after the envelope has been inserted through the opening in the base of the fixture. The cover and the base include an exterior surface, which are resistant to splashing water, hose-directed water, ice formations, wind, rain and environmental corrosion.

Independent claim 22, upon which claim 27 depends, as now amended claims a germicidal lamp for harsh environments and a fixture.

The germicidal lamp comprises a single-walled tube having a stemmed end with a flange, and a free end. An envelope is disposed between the ends having a first cross-sectional shape. A rigid stem is secured to the envelope at the stemmed end, the stem including at least one electrode.

The fixture comprises a base, a cover, and a tube holder. The base has an upper surface and a lower surface. The base including an opening through which the envelope of the tube is passed for installation of the tube in the fixture and removal of the tube from the fixture, but through which the stem will not fully pass, the flange on the stemmed end of the tube sealingly engaging the base when the tube is installed. The lower surface of the base “sealing against a wall” to thereby prevent splashing water, hose-directed water, ice formations, wind, rain and environmental corrosion to pass there through, the base including an exterior surface which is resistant to splashing water, hose-directed water, ice formations, wind, rain and environmental corrosion. A socket is disposed inside of the fixture and electrically coupled to at least one electrode. A cover which is at least partially detachable from the base so that the cover can be moved from a first position wherein the cover covers the upper surface and the cover can be partially moved away from the base to at least partially expose the upper surface of the base.

The cover "sealing tightly to the base" to thereby prevent splashing water, hose-directed water, ice formations, wind, rain and environmental corrosion from entering the interior space of the fixture. The cover including an exterior surface which is resistant to splashing water, hose-directed water, ice formations, wind, rain and environmental corrosion. A tube holder including an engaging surface adapted to engage and secure the stem of the tube.

### The Anderson Reference

In contrast, Anderson teaches irradiation means comprising an ultraviolet lamp 38 and a quartz sleeve 40 which is transparent to UV rays. (column 3, lines 22-24). The quartz sleeve 40 is frictionally held in the head 10 in an accurately machined hole 46 slightly larger in diameter than the outside diameter of the sleeve 40 and provided with grooves for O-rings. (*Id.* at lines 25-28). This creates a water-tight frictional connection between the quartz sleeve 40 and the head 10. (*Id.* at lines 28-30). The lamp 38 is inserted *inside the sleeve* 40. (*Id.* at lines 45-47). Thus the present invention can be distinguished from Anderson because Anderson teaches that the seal is between the quartz sleeve 40 and the head 10 whereas the present invention teaches that the seal is between the base 210 and the tube stem 130 of the germicidal lamp. When the lamp is removed in Anderson, the seal between the quartz sleeve 40 and the head 10 remains intact, while with the present invention there is no seal when the lamp is removed.

Furthermore, Anderson does not teach that the lower surface of the base "seals against the wall" nor does Anderson teach "the cover seals tightly to the base." Anderson teaches a bracket 34 is provided to support a power supply box 36 on the head 10. (Column 3 at lines 16-17). The bracket 34 is adapted to be secured to the head on integral posts by means of bolts and has a central hole through which electrical connections is made to the lamp. (*Id.*, lines 50-55). The power supply box 36 is fastened to bracket 34 in any suitable manner so that it is located above the head 10. (*Id.*, lines 56-59). Finally, Anderson teaches that "parts may be made of any material suitable for exposure to water without undergoing corrosion. (Column 4, lines 13-14), but does not teach sealing those parts from water. Nowhere does Anderson teach, suggest, or motivate that the bracket 34 is sealed against the head 10 or that the power supply box 36 is sealed tightly to the bracket 10 to thereby prevent splashing water, hose-directed water,

ice formations, wind, rain and environmental corrosion from entering the interior space of the fixture.

### **The Wiesman patent**

The aforementioned shortcomings in Anderson are not remedied by any teachings of Wiesmann. Weissman teaches using UV radiators for treating sewage. Each UV radiator 14 are surrounded by a radiation pervious protective tube 16 which prevents water from accessing the discharge tube or its electrical contact. (Column 5, lines 10-13). The protective tubes 16, are permanently built into the apparatus. (*Id.*, lines 13-16). Furthermore, Weissman does not teach a cover or an interior space within the fixture. Thus the present invention is distinguished from Wiessman because the present invention does not utilize permanently mounted protective tubes and the present invention utilizes a cover, which forms an interior space within the fixture.

### **Conclusion**

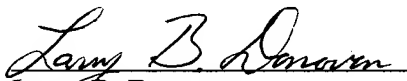
In view of the foregoing, it is respectfully submitted that claims 1, 2, 7-10, 14, 16, 22 and 27 of the present application are now in proper condition for allowance.

If there are any fees necessitated by the foregoing communication, please charge such fees to our Deposit Account No. 50-0902, referencing our Docket No. (71800/90598).

Respectfully submitted,

ARTER & HADDEN LLP

Date: 9-18-2001

  
Larry B. Donovan  
Registration No. 47,230  
1100 Huntington Building  
925 Euclid Avenue  
Cleveland, Ohio 44115-1475  
(216) 696-3864 (phone)  
(216) 696-2645 (fax)

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Valerie A. Milam  
Name: Valerie A. Milam

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